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ABSTRACT

Salary equity issues in higher education are examined with reference to sex discrimination in faculty salaries, the law and its application, judicial deference toward higher education, and the nature of salary equity evidence. The basis for most salary equity studies has been the simple observation that salaries of male professors are generally higher than those of female professors, even within the same academic rank. Information is presented on salaries for male and female professors for the 1981-82 academic year. Similar relationships exist for all academic ranks in both public and private institutions. Two pieces of legislation, the Equal Pay Act of 1963 and Title VII of the Civil Rights Act of 1964, provide the primary basis for current salary equity studies and legal proceedings. In any legal action, an aggrieved faculty member may choose to make the claim as an individual or as a representative member of an injured class, such as all women faculty. Even if a plaintiff demonstrates that one academic position requires about the same skills, effort, and responsibility as another and that a salary differential exists between the individuals who occupy the two positions, the plaintiff's case still fails legally if the salary differential is attributable to a seniority system, a bona fide merit system, differences in the quantity or quality of work, or factors other than sex. The school is likely to use faculty evaluation data to defend its claim that observed salary differentials are appropriate. Three major methods that have been employed in the courts to examine salary equity are job evaluation, pairwise comparisons, and multiple regression. (SW)

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Salary Equity Issues in Higher Education: Where Do We Stand?

by James V. Koch

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Studies of salary structures in academic institutions are usually undertaken to examine relative and actual differences in the compensation of legally protected classes of employees.[1] The most common subject of recent studies is the salary differential that exists between male and female faculty members at virtually every level of rank. At least 25 percent of all U.S. colleges and universities have conducted salary equity studies on their campuses in recent years.[2] The conclusions reached in these studies have prompted some institutions to make compensatory salary payments to faculty, usually women, whose salaries were found to be below acceptable levels.

Legal proceedings in salary equity cases deserve the close scrutiny of academic administrators; judicial decisions and out-of-court settlements often have implications far beyond the confines of the original case. For example, The University of Minnesota was rocked by a landmark 1980 consent decree that stipulated the appointment of a special court master to resolve past and future claims of sex discrimination at the university through 1989. The court master is empowered to make financial awards which, according to the plaintiff's lawyers, might total $60 million (Wehrwein, 1981).

The case of *Rajendar* v. *University of Minnesota*[3] provoked widespread comment (Broad, 1980) and dramatizes the currency and financial impact of salary equity proceedings in which the decision goes against the institution involved.

An analogous, earlier incident is the *Lamphere* case (1977).[4] Brown University spent an estimated $1 million fighting claims of sex discrimination by Louise Lamphere, an assistant professor of anthropology, and other female faculty. The University never admitted guilt in the matter but did sign a consent decree requiring it to set aside $400,000 to rectify inappropriate salary differentials involving female faculty.[5] The *Lamphere* case, along with *Rajendar* and others, leaves little doubt that charges of salary inequity by sex can have serious financial and public relations problems for academic institutions.

Is There Sex Discrimination in Faculty Salaries?

Beyond doubt, discrimination against female faculty exists in the salary structures of many institutions of higher education. Studies conducted have included all of higher education (LaSorte, 1971; Cohn, 1973; Darland, *et al.*, 1974; Bayer and Astin, 1975; Tuckman, 1976; Tuckman and Tuckman, 1976; Ferber and Kordick, 1978; National Research Council, 1981); or an entire state (Martin and Williams, 1978; Maryland State Board, 1978; Tennessee Commission, 1979); or specific disciplines (Johnson and Stafford, 1974 and 1975); or particular colleges and universities (Katz, 1973; Ferber and Loeb, 1973; Koch and Chizmar, 1973 and 1976; Gordon *et al.*, 1974; Reagan and Maynard, 1974; Hoffman, 1976; and, Ferber *et al.*, 1978). The conclusions reached in these studies have nearly always been the same: men and women faculty of comparable qualifications, experience, productivity, and academic discipline do not as a rule earn

[1] Legally protected classes of employees currently include, among others: Blacks, Hispanics, Asians, American Indians, veterans, and the handicapped, and women in some cases.

[2] A partial listing of early cases may be found in Scott (1977). The most up-to-date listing and accompanying commentary is contained in Farley (1982).

[3] *Rajendar* v. *University of Minnesota* 20 E.P.D. 30, 225 (D. Minn. 1979), 24 F.E.P. Cases 1045 (D. Minn. 1978).

[4] *Lamphere* v. *Brown University* 71 F.R.D. 641 (D.R.I. 1976), 553 F. 2d 714 (1st Cir. 1977).

[5] A balanced description of the circumstances surrounding the *Lamphere* case may be found in Reeves (1977).

equal salaries. Most estimates suggest that the penalty for being female, *per se* is between $1,000 and $3,000 for each faculty position per year. This conclusion seems not to be affected by the type of academic institution—for example, public versus independent—or by institutional location. There is some evidence that institutions that rely upon rigid salary schedules may have less discrimination than others (Beaumont, 1978).

The studies cited represent a large number of similar investigations carried out in recent years. The basis for most studies has been the simple observation that salaries of male professors are generally higher than those of female professors, even within the same academic rank. Table I reports salary information for male and female professors for the 1981–1982 academic year. The mean salary of male full professors in public institutions is $35,910, while that of their female counterparts is only $32,400. Similar relationships exist for all academic ranks in both public and independent institutions.

Table II employs ratios to compare mean faculty salaries of men and women at public and independent institutions. The greatest relative disparity between their salaries is at the level of full professor, especially in independent institutions. There is some evidence, however, that the relative disparity between mens' and womens' salaries has been gradually declining (Astin and Synder, 1982).

The simple reporting of gross salary relationships can hide a great deal. Male and female faculty members do not have identical profiles in terms of age, degree attainment, or publications (Bayer and Astin, 1975; National Research Council 1981).

They are also unequally represented across academic disciplines: for example, 90 percent of professors of economics are male, compared to about 50 percent of those in English.[6] The respective market pressures for economists and English professors differ and such pressures naturally tend to cause salary differentials between the two fields.

The relevant point is that *many* different factors may account for observed salary differentials between male and female faculty (Lloyd, 1975). But of these factors, *some* are legally permissible reasons for salary differentials, while others are not. What the statutes say about salary differentials—and more importantly, how courts have interpreted those laws—are the most important arenas for salary equity questions.

The Law and its Application

Two pieces of legislation, the Equal Pay Act of 1963 and Title VII of the Civil Rights Act of 1964, provide the primary basis for current salary equity studies and legal proceedings. (See Cairns 1981, or Fox 1981, for a summary of current law and judicial interpretation). The Equal Pay Act states forthrightly:

> No employer having employees subject to any provisions of this section shall discriminate, within any establishment in which such employees are employed, between employees on the basis of sex by paying wages to employees in such establishment at a rate less than the rate at which he pays wages to employees of the opposite sex in such establishment for equal work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions, except where such payment is made pursuant

[6] These faculty availability data are for 1975–1976 and were compiled by the Affirmative Action Office, University of Colorado.

I. Mean Salaries for Male and Female Faculty By Academic Rank and Sex, 1981–1982

	Public Institutions		*Independent Institutions*	
Academic Rank	Men	Women	Men	Women
Professor	$35,910	$32,400	$40,490	$35,840
Associate Professor	$26,810	$25,080	$28,250	$26,600
Assistant Professor	$22,130	$20,330	$22,920	$21,430
Instructor	$17,040	$15,990	$18,860	$17,540

Source: American Association of University Professors, *Academe* (volume 66, August–September, 1982).

II. Ratio of Mean Salary of Male Faculty to Mean Salary of Female Faculty, by Rank, 1981–1982

Academic Rank	Public Institutions	Independent Institutions
Professor	1.108	1.130
Associate Professor	1.069	1.062
Assistant Professor	1.089	1.070
Instructor	1.066	1.075

Source: Supra in Table I.

to (i) a seniority system; (ii) a merit system; (iii) a system which measures earnings by quantity or quality of production; or (iv) a differential based on any other factor other than sex.[7]

On its face, the Equal Pay Act permits many kinds of salary differences between and among individuals. Although some of these differences might be considered discriminatory at first glance, they are not necessarily discriminatory according to the Equal Pay Act.

Title VII of the recently reauthorized Civil Rights Act of 1964 prohibits a wide range of discriminatory practices in employment, including salary discrimination on the basis of sex. Some authorities (Chandler, 1980) argue that Title VII supplements and broadens the Equal Pay Act; however, this interpretation has not thus far been adopted by the U.S. Supreme Court. Since 1972, Title VII has been applied to all public employees and has been the primary basis for several suits alleging unlawful salary discrimination in public colleges and universities.

In any legal action, an aggrieved faculty member may choose to press his/her claim as an individual or as a representative member of an injured class, such as all women faculty. Class action suits have encountered a mixed judicial reception. In *Townsel* v. *University of Alabama* (1978), the court said that "equal employment suits involving academic positions at colleges or universities are ill suited for class actions because the decision in question must be individually scrutinized."[8] In a similar vein, a Michigan court ruled recently that five women faculty in different departments at Michigan State University did not constitute a common class because they, their departments, and their responsibilities were too diverse.[9] Yet, in an analogous situation in Oregon, a court held that 13 women professors in different departments did have class standing.[10] In an even stronger decision involving Temple University, a court ruled that diverse women faculty plaintiffs could be certified as a class even though no single alleged discriminatory policy affected everyone in that class.[11]

There is substantial risk for women faculty asking a court for class status when individual suits might be pressed more easily. But some weigh the risks against the potentially greater impact of a class action suit, which also has the advantage of distributing legal costs across more plaintiffs.

Despite the difficulties involved in class action suits, courts on several occasions have ruled in favor of classes composed of women faculty members. Flygare, (1981), LaNoue (1981), and Farley (1982) detect what they believe to be an increasingly favorably judicial attitude toward salary-equity class actions. However, the overall rate of success for women initiating salary equity suits as class actions has not been high.

According to LaNoue (1982), about three-quarters of all plaintiffs who have sued academic institutions alleging violations of either the Equal Pay Act or Title VII have lost their cases because the legal bases for such suits are narrow and the burden of proof rests on the plaintiff. In court, it is the plaintiff who must demonstrate that his or her academic position requires skill, effort, and responsibility comparable to some other position that is rewarded with higher pay, and that working conditions of the two are similar. The difficulty is compounded in a class action because the skills required of an English professor, for example, are arguably not the same as those required of a medical or agronomy professor.[12] Indeed, even within the same English department, some would argue that the skills required of an expert in Chaucerian literature differ from those required of a writing professor.

Judicial Deference Toward Higher Education

Some authorities (Vladeck and Young, 1978) have argued that the legislative intent of the 1972 Title VII amendments was specifically to end the exemption that all academic insitutions had previously enjoyed from Title VII. If so, the ensuing results have not matched such an intent (Friedman, 1981). While academic institutions may not enjoy formal legal exemption from salary equity suits brought under the amended Title VII, many courts have been reluctant to apply its full power to colleges and universities (Ginensky and Rogoff, 1976). An emergent pattern in Title VII cases suggests that courts are much more demanding of "white-collar" plaintiffs than of "blue-collar" plaintiffs. Judges seem more willing to accept normative criteria and judgmental perceptions of qualifications, productivity, and merit (and perhaps even the confidentiality of relevant proceedings) when professors are before the bar than when less educated employees are involved. As one court said, "Under such time honored concepts as 'academic freedom' and 'merit selection,' we shall decline plaintiffs invitation to tell [the university] how to run its academic affairs."[13]

Even when white-collar jobs are considered as a group, judges appear to apply stricter standards to lawyers, physicians, and other professionals than to college professors. Many writers have observed judicial deference and leniency toward the academy in Title VII cases (Yurko, 1980; Vanderwaerdt, 1981). At least one critic charges that the judicial decks are stacked against women faculty when they allege sex discrimination under Title VII (Abramson, 1975 and 1979). When a professor or institution offers explanations about the difference between the salaries of given female and male faculty members, courts have usually (though sometimes reluctantly) accepted those explanations. An illustrative case is *Keyes* v. *Lenoir Rhyne College* (1977).[14]

[7] Fair Labor Standards Act, 29 U.S.C. 201.

[8] *Townsel* v. *University of Alabama*, 80 F.R.D. 741 (N.D. Ala. 1978).

[9] *Michigan State University Faculty Association* v. *Michigan State University*, Slip Opinion No. G-76-649 C.A. 5 (W. D. Mich., October 13, 1981).

[10] *Penk* v. *Oregon State Board of Education*, Slip Opinion D-80-436 (D. Oreg., October 13, 1981).

[11] *Molthan* v. *Temple University*, 83 F.R.D. 368 (E.D. Pa. 1979), 442 F. Supp. 448.

[12] But see the contrary view taken by the court in *Jepsen* v. *Florida Board of Regents*, 22 E.P.D. 30, 624 (1980), 610 F.2d 1379 (5th Cir. 1980): " . . . mentally and physically the effort required of all teaching faculty members is substantially the same."

[13] *Sanday* v. *Carnegie Mellon University*, 17 F.E.P. Cases 562 (W.D. Pa. 1976), 15 E.P.D. 8088 (W.D. Pa. 1976).

[14] *Keyes* v. *Lenoir Rhyne College*, 552 F.2d 579 (4th Cir. 1977), cert. denied, 434 U.S. 904 (1977).

Merit systems

Even if a plaintiff demonstrates that one academic position requires approximately the same skills, effort, and responsibility as another, and that a salary differential exists between the individuals who occupy the two positions, the plaintiff's case still fails legally if the salary differential is attributable to a seniority system, a *bona fide* merit system, differences in the quantity or quality of work, or (at least in theory) *any* other factor other than sex. As a consequence, the plaintiff's line of attack usually centers on the merit or productivity evaluations often cited by the defendent as the legitimate basis for observed salary differentials. An instructive example is *Marshall* v. *Georgia Southwestern College* (1980).[15] In *Marshall*, the court noted with displeasure that Georgia Southwestern College had no systematic, written merit-evaluation system and concluded that what passed for merit evaluations at the college were, in fact, "ill-informed judgments." The court also ruled that equality of work should be judged by measures of actual work performed rather than by references to work titles (professorial ranks) or by the nonsystematic judgments of administrators.

The lesson of *Marshall* is not that merit-salary systems violate the law; in numerous instances, including *Jepsen*,[16] courts have declined to place any blanket prohibition upon merit evaluations that result in salary differentials. Rather, as Flygare (1981) has pointed out, the lesson is that any such system should be put in writing, be specific and systematic, and be applied in an evenhanded manner to all parties. As the court observed in *Sweeney* v. *Keene State College* (1978), "Evaluation standards need to be clearer and more objective. Methods of measuring performance against those standards need to be refined."[17]

The courts' directives indicate that academic institutions must rely on more than "coffee-room gossip." Systematic, written guidelines for evaluation and systematic, validated student and peer evaluations of a faculty member's teaching satisfy this test. But relatively few academic departments develop such evidence. Even though the major responsibility of most faculty at most academic institutions is teaching, legally acceptable evidence concerning teacher effectiveness remains scarce. Further, evidence about teaching is often vulnerable to charges that it is unrepresentative, statistically unreliable, and subjective.

As a consequence, many institutions fall back upon externally published scholarly productivity as their *numeraire* in justifying salary, promotion, and tenure decisions. Refereed journal articles and books are at least countable; they offer some evidence that the author has passed a critical review process conducted by knowledgeable peers. This approach has appealed to many courts. In *Carton* v. *Tufts* (1981), a supportive court averred that " . . . the determinative factor in the negative decision was [a] lack of traditional scholarship."[18] The court rarely will impose its own judgment on a college or university that consistently uses a scholarly productivity standard in making salary decisions.

Faculty evaluations

When a plaintiff alleges unlawful sex discrimination in faculty salaries, the college or university is likely to use faculty evaluation data to buttress its claim that observed salary differentials are appropriate. It has already been noted that such evaluations must be systematic and the product of a clearly defined process and methodology. Nonetheless, whatever the source of the faculty evaluations, the plaintiffs may not have been allowed access to them. Yet under some circumstances plaintiffs have forced academic institutions to disclose the evaluations upon which its salary decisions were based. In seeking to have these documents disclosed, a plaintiff faculty member bucks centuries of American academic tradition that considers faculty evaluations private and confidential. Not only do the policy documents and reports of the American Association of University Professors (1977) strongly advocate confidentiality, but the AAUP takes the stance that only in very limited circumstances should any appellate reviewer overturn or reverse faculty peer judgments made at the departmental level.

The best recent summary of the issues and cases surrounding privilege and confidentiality in professorial evaluations is that of Weeks (1982), who shows that faculty evaluations are at least partially privileged, depending upon the circumstances. In three cases—*Keyes* v. *Lenoir Rhyne* (1977),[19] *Jepsen* v. *Florida Board of Regents* (1981),[20] and the well known *Dinnan* case (1981)[21]—courts have ruled that institutions must produce confidential evaluations for inspection if they wish to rely on such evaluations to defend their decisions. Professor James Dinnan of the University of Georgia spent three months in jail because he refused to disclose his vote on the question of tenure for a woman faculty member. The court was persuaded that a plaintiff operates under a severe disadvantage in a salary equity proceeding if he or she does not have access to the faculty evaluations which the defendent argues are the reason for a salary differential.

In *Keyes*, however, the judgment was appealed and a U.S. Court of Appeals reversed the lower court ruling that Lenoir Rhyne College did not have to produce confidential evaluations upon which its decision not to award tenure to Keyes at least partially depended. This view was substantially adopted in the recent *Gray* case (1981).[22] In *Gray*, a Federal District Court in New York ruled that it was necessary to weigh the adverse consequences of disclosure to academic decision-making against the harm that nondisclosure would cause the plaintiff. So weighed, the court held that LaGuardia Community College did not have to reveal the confidential faculty evaluations that supported its decision not to award tenure to Gray. *Gray* appears to

[15] *Marshall* v. *Georgia Southwestern College*, 24 E.P.D. 17, 867 (1980), 489 F.Supp. 1322.

[16] *Supra* Note 12.

[17] *Sweeney* v. *Keene State College*, 569 F.2d 169, 176 (1st Cir. 1978), 439 U.S. 24 (1978), 48 U.S.L.W. 3465 (January 21, 1981).

[18] *Carton* v. *Trustees of Tufts College*, E.P.D. 31,630, 25 F.E.P. Cases 1114 (D. Mass. 1981).

[19] *Supra* Note 14.

[20] *Supra* Note 12.

[21] *In re Dinnan*, 625 F.2d 1146 (5th Cir. 1980); 661 F.2d 426 (5th Cir. 1981).

[22] *Gray* v. *Board of Education, City of New York*, 32 F.R. Serv.2d 1258 (S.D.New York, 1981).

have established a qualified rule of privilege for confidential faculty evaluations: ". . . if the privilege is to yield the faculty member must show a substantial reason as to why the information is essential to litigation [and] . . . the scales tip decidedly toward the protection of the confidentiality of the faculty peer review system which it [the court] views as embodying a broader societal value." (Weeks, 1982, pp. 3, 4). Obviously, the decision in *Gray* may present substantial impediments to plaintiffs in salary equity proceedings.

Several courts have ruled that plaintiffs must prove not only the fact of salary discrimination but also that it was intended by the defendent.[23] Fortunately for plaintiffs, this demanding test has not been uniformly applied. As one commentator (Masters, 1980) observed, the role of intent in salary equity cases remains undecided. Clearly, however, the success of salary equity suits will fall precipitously if plaintiffs must demonstrate that their employer deliberately intended to discriminate against them.

Limitations of Time and Outcome

Finkelstein (1980) points out that to have an actionable claim under Title VII, a plaintiff must file a formal charge with the Equal Employment Opportunity Commission (EEOC) within 180 days of the alleged act of discrimination. Those who believe that they have been the victims of unlawful salary discrimination often fail to satisfy this deadline, thus losing their ability to challenge any discrimination.

Alleged discrimination that predates the 1964 date of the original Title VII is similarly not actionable. Further, in *Haz 'wood* v. *U.S.* (1977),[24] the U.S. Supreme Court held that public employees (including those at colleges and universities) may not sue for activities occurring before 1972, when Title VII became applicable to them. Salary equity cases brought under the Title VII amendments place greater reliance on recent salary increments than they do on salary structures that may contain unactionable past discrimination (Gwartney *et al.*, 1979).

Procedures surrounding such actions are complicated (Erickson and McGovern, 1979), often frustrating (Abramson, 1975 and 1979; Boring, 1978), and nearly always lengthy. While the remedies a court may impose for salary discrimination are many (Curtis, 1976), they tend, even in the minority of instances in which they are favorable to the plaintiff, often to confer only psychological satisfaction. The emotional and psychological toll upon participants is typically high; many plaintiffs choose to change jobs and even occupations before their actions are finally decided.

The Nature of Salary Equity Evidence

Until 1977, the courts often pursued what Gwartney *et al.*, (1979) have called the "warm body" hypothesis: courts assumed that job skills and abilities were uniformly distributed across faculty populations. Thus, a strong burden was placed on defendant institutions to demonstrate that there was any lawful job-related skill or qualification whatsoever that could have resulted in salary differentials. Since 1977, however, courts[25] have tended to accept the argument that many specific job-related skills and abilities can result in legitimate, lawful salary differentials between and among employees. This new attitude had led to the use in court of multivariate statistical analyses of salary structures, since such analyses seem necessary to informed judgment about the multitude of skills and factors that might plausibly affect job performance and salaries.[26]

Academic bodies (such as the AAUP) and numerous courts now agree that many diverse factors might legitimately affect academic salaries. Three major analytic techniques have been used in credible studies to reduce and rationalize such factors into concrete judgments about salary equity. The first technique, job evaluation, requires the college or university to identify specific job-related factors it considers "compensable," that is, worthy of payment or reimbursement. Each of these factors—for example, highest degree level attained—is then assigned an agreed upon point value. The faculty member who emerges with the highest number of points should, as a consequence, be the highest paid. Variants of this approach are employed by consulting firms, and have been implemented at the University of Cincinnati and the University of Nebraska.

The immediate and obvious problems with job evaluation are two-fold. First, who specifies the relevant factors that will be assigned points? Second, who determines the points to assign to each factor? Given the diversity of faculty responsibilities and productivity, it is doubtful this method will receive wide use as an approach to salary decisions (Birnbaum, 1979). It is an approach more suited to nonacademic labor than to faculty.

The second major analytical technique, pairwise comparisons, involves finding " . . . a white male who is 'similar' to the woman under study in attributes and experience and then claim that her salary should match that of the white male" (Scott, 1977, p. 6). The worth of this technique depends almost entirely on the validity of the pairs chosen for comparison. Upon occasion it is possible to match faculty in terms of degree attainment, discipline, and experience, and in terms of performance variables such as published articles and books. But the very diversity of academic institutions as a whole, and of academic departments and faculty responsibilities in particular, typically means that nearly every matched pairing is imperfect in some way. The relevant question becomes the degree of variance in the pairing.

In the early 1970s, pairwise comparisons were used frequently by the courts because as a technique it was more easily understood by those not versed in statistics. A case in point is *Mecklenburg* v. *Montana State Board of Regents* (1976),[27] in which a federal district court relied upon pairwise analyses of salary differentials. (The Montana State case is believed to be the first successful class-action salary equity suit

[23] *Pressesen* v. *Swarthmore College*, 442 F Supp. 593 (E.D. Pa. 1977), affirmed, 582 F.2d 1275, 71 F.R.D. 34 (E.D. Pa. 1977) is one such example. Another is *Smith College* v. *Massachusetts Commission Against Discrimination*, 18 E.P.D. 8699 (Mass. Sup. Ct. 1978), 38 N.E.2d 121.

[24] *Hazelwood School District* v. *United States*, 433 U.S. 299 (1977).

[25] Wilkins v. University of Houston, 654 F.2d 388 (5th Cir. 1981), rehearing denied 662 F.2d 1156 (5th Cir. 1981).

[26] See Connolly and Peterson (1980) for a summary discussion of the use of statistics in EEOC and related employment cases.

[27] *Mecklenburg* v. *Montana State University*, 13 E.P.D. 11, 438, 13 F.E.P. Cases 462. (D. Mont., 1976).

brought by women faculty.) Aiken (1976), Clark (1977), and Abramson (1979) describe the case and the process by which the pairwise comparison technique was developed and used. Aiken views *Mecklenburg* as a bad decision because the court inferred discrimination where, in Aiken's view, none was present. Clark, a Montana State University administrator and participant in the suit, has written a balanced and interesting account of it. Abramson cites a disappointed faculty member of the plaintiff class at Montana State and concludes that *Mecklenburg* was a highly publicized but hollow victory for many women faculty.

The major problem with pairwise analysis of salary differences is that often one cannot prove the necessary assumption: that all other relevant factors are equal when comparing two faculty members.[28] What does an analyst do when one faculty member is identical to another except that the first published a book with a reputable university press? When the second won a "teacher of the year" award? When the first faculty member is a computer scientist and the second a musician? The problem of taking these many different factors into account is almost insurmountable.

These difficulties have, since 1977, caused a third technique—multiple regression—to become the dominant single approach to empirical salary equity analysis. As Fisher (1980, p. 702) describes it, "multiple regression analysis is a device for making precise and quantitative estimates of the effects of different factors on some variable of interest." In salary equity analyses, the dependent variable—the factor that the analyst seeks to explain—is the salary of individual faculty members. A host of independent variables can be used to explain why one faculty member's salary is higher than another's. In recent years, several publications have appeared on the power and pitfalls of multiple regression analysis in salary equity cases. Foremost among these is Pezzullo and Brittingham (1979), a collection of essays on salary equity studies that concentrates on the role of multiple regression analysis. Other useful sources include Gray and Scott (1980); Finkelstein (1973 and 1980); Risher and Cameron (1982); and, especially, Fisher (1980).

The independent explanatory variables used for salary equity analysis may include many different factors. However, as Finkelstein (1980) has demonstrated, legal acceptance requires that the explanatory variables be job-related; "tainted" variables may not be used in the regression equation. A variable may be tainted because it reflects discriminatory action or status granted by the institution, such as academic rank, which some observers argue is plausibly the outcome of sex-discriminatory processes (Bergmann and Maxfield, 1975; Scott, 1977). Whether that is the case or not may be a question dependent on the particular campus and situations. In *Mecklenburg*,[29] the court ruled that academic rank was indeed a tainted variable and should not be used to explain salary differences. An opposite conclusion was reached in *Presseisen* (1978)[30] a case in which, though, the court clearly accepted the notion of evidence generated by multiple regression analysis.

Multiple regression analysis generates a "predicted" salary based upon each faculty member's individual characteristics in light of the value of those characteristics for the entire faculty group analyzed. This predicted salary is then compared to the faculty member's actual salary. Any difference may be regarded either as "unexplained" or as salary discrimination.[31] It is apparent, again, that the variables used in generating the predicted salary are crucial. There are extended discussions in the literature about the appropriateness of certain variables in salary equity analyses. Particularly extensive and penetrating analysis is contained in Pezzullo and Brittingham (1979) in the form of collected articles and case studies.

It is difficult to overemphasize the importance in equity regression analysis of careful, appropriate selection of explanatory variables. Several factors must be taken into account in that selection. First, to comply with the law, one must show whether "equal pay for equal work" actually holds true on a given campus. Hence, salary equity analyses of any kind are of only marginal value if they neglect performance and productivity measures for individual faculty. According to Scott (1977), failure to consider performance and productivity measures unfortunately consigns the well-known *AAUP Higher Education Salary Evaluation Kit* to the limited role of flagging women and minority persons for whom salary inequities might exist. To have legal bearing, the salary kit must be supplemented with individual case analysis of faculty publications, teaching, and so forth. It is, however, a considerable advance over former techniques and is consistent with the view of LaNoue (1982) and others who warn that "few institutions will want to use [mathematical models] to determine current or prospective salaries" (p. 30).[32]

Despite the difficulties, more than 40 campuses have found it possible either to ignore the advice of the literature or to determine to their own satisfaction that their regression equations were properly specified. Not surprisingly, a federal district court judge recently observed that Title VII salary equity suits have become " . . . contests between college professor statisticians who revel in discoursing about advanced statistical theory" *(Otero* v. *Mesa County Valley School District)*.[33] There is little sign that this trend will be reversed in the near future, since a court said in *Wilkins* v. *University of Houston* (1981),[34] regression analysis " . . . may be the best, if not the only, means of proving classwide discrimination."

A second major consideration that emerges in most salary equity studies is the importance, if any, that the

[28] This criticism does not seem to apply to a sophisticated variant of pairwise comparison methodology—a matched national sample of men and women faculty utilized by the National Research Council (1981). See also Braskamp (1977 and 1978); Smith (1979); and, Pendergrass and Kimmel (1980) for further discussion of pairing techniques and problems.

[29] *Supra* Note 25. [30] *Supra* Note 23.

[31] It is precisely this issue that is addressed in Nangle (1980). Nangle also describes in detail the salary equity process followed at Western Michigan University. This description would be instructive on any campus, but is especially relevant for campuses which engage in collective bargaining.

[32] The reader is directed particularly to Birnbaum (1979), Long (1979), and Fisher (1980) for a cautionary discussion of the various problems that can be associated with the use of mathematical models involving multiple regression analysis in salary equity studies.

[33] *Otero* v. *Mesa County Valley School District*, 470 F. Supp 326, 331 (D. Colo. 1979). [34] *Supra* Note 25.

analyst attaches to market influences upon academic salaries. The mean salary of a typical professor of computer science today exceeds that of a typical home economics professor—and a majority of computer science professors are male, while a majority of home economics professors are female. If one admits market forces as a permissible determinant of faculty salaries, then a portion of the salary differential between male and female faculty will be legitimately explained. Apparent discrimination is therefore reduced.[35]

Courts have explicitly admitted market factors as lawful reasons for salary differentials when those market factors were carefully and systematically specified. In a 1977 action by women faculty against the University of Northern Iowa,[36] a court ruled that "Title VII was not intended by Congress to abrogate laws of supply and demand or other economic principles that determine wage rates for various kinds of work and does not require employers to ignore market in setting wage rates . . . ." Yet, another court, in *Marshall* v. *Georgia Southwestern College* (1980), was highly critical of college administrators who " . . . did not inform themselves of the market rates of particular expertise, experience, or skills. . . ," but nonetheless made surmises about market factors.[37]

Salary equity analyses in higher education are here to stay. In the wake of *Gunther* v. *County of Washington* (1981),[38] entire faculty salary structures may be opened to hitherto unprecedented scrutiny. In *Gunther*, a split U.S. Supreme Court ruled 5 to 4 that charges of sex discrimination in salaries need no longer be based on comparisons of the salaries paid men and women performing precisely the *same* jobs. The court ruled that such charges may now be heard in cases where men and women are performing different jobs. In this new variety of case, it is entire salary structures that are the focus of attention.

The *Gunther* court also mentioned, but did not adopt, the doctrine of "comparable worth:" the assertion that professors' salaries should be determined on the basis of a normative scale of social and economic value, rather than by market forces. The concept of comparable worth has been assailed in some quarters (Nelson *et al.*, 1980 and 1981), but has been praised as a social advance of the first magnitude by others such as Eleanor Holmes Norton, former chairman of the EEOC (BNA, 1981, pp. 49–52). An exhaustive recounting of issues and cases relating to comparable worth is contained in a 1981 publication by the Bureau of National Affairs.

While the future of the comparable worth doctrine is unclear, its adoption as the law of the land would dramatically alter the salary structures of higher education. For example, the current rationale for paying an accountant more than a philosopher—because of supply and demand forces in the market—would presumably not be acceptable. Similarly, salary and promotion systems that generate salary differentials between male and female faculty, for whatever reasons, would apparently be unlawful.

Studies and legal actions involving salary equity are creatures of the 1970s. While salary equity questions are far more technical than those in most other affirmative action and womens' equity areas, some believe it would be a mistake not to press forward with them as part of the overall social canvas of higher education. That canvas still portrays many indications of inequity between the sexes. Recent surveys of the status of women faculty and administrators in academe by Gappa and Uehling (1979), National Research Council (1979), and Bogart (1981) continue to reveal many equity problems, of which salary is only one. Despite the passage of an amended Title VII in 1972, a judge subsequently chastized a woman faculty plaintiff in a salary equity suit by charging that she " . . . envisions herself as a modern Jeanne d'Arc fighting the rights of embattled womanhood on an academic battlefield, facing a solid phalanx of males and male faculty prejudice."[39] This opinion continues to be cited in contemporary cases and is indicative of the resistance to salary equity programs inside and outside higher education.

The experiences of the past decade admit two other conclusions. First, the law and issues surrounding salary equity proceedings are extremely complicated, often involving econometric theory and ponderous legal precedent. Second, plaintiffs do not often win the salary equity actions they bring against academic institutions. Yet, even when plaintiff faculty members lose a law suit, the legal contest has often led to positive change. This may well be the pattern through the 1980s (LaNoue, 1981). ■

[35] One of the most vociferous critics of the operation of affirmative action programs and of salary equity programs has been Richard Lester, a labor economist and former Princeton University dean. Lester (1975) argues *inter alia* that many salary equity programs ignore valid market wage differentials.

[36] *Christensen* v. *State of Iowa*, 563 F.2d 353 (8th Cir. 1977).

[37] *Supra* Note 15.

[38] *Gunther* v. *County of Washington*, 602 F.2d 882 (9th Cir. 1979), petition for rehearing denied, 623 F.2d 1303 (9th Cir. 1980), affirmed, ___U.S.___, 68 L. ED.2d 751, 101 S.Ct. 2242 (1981).

[39] *Faro* v. *New York University*, 502 F.2d 1229 (2d Cir. 1974).

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